

5.4.3 Item Similarity tab

! In order for this feature to be available, please ensure that the **Question Similarity Search** check box is selected for the application in the License Server configuration. If this is not selected, you are not able to use the Enemy Detection feature in the application. If it is not available, then you need to contact Pearson VUE Tech Support.

The **Item Similarity** tab allows the Project Manager to make use of the application's Enemy Detection feature to help decide the establishment of enemy relationship between the item pairs (from the current project) proposed by the feature according to the criteria set by the Item Bank Manager on the **Item comparison criteria** page under **Manage Item Bank**.

The screenshot shows the 'Item comparison' page for 'Project: Demo_STDIB2'. The page displays 'Total 8 Questions' and prompts the user to 'Provide your search Criteria (Refresh for Count)'. A search criteria field is set to 'Question ID' with a dropdown menu, followed by a radio button for 'Not' and a dropdown for 'is equal to'. There is an 'Add New Criteria' button and buttons for 'Retrieve Questions', 'Save Search', and 'Load Search'. A 'Similarity Score Threshold(%)' field is set to 70. An 'Export to [file format]' button and an 'Include actioned items' checkbox are also visible.

The process of retrieving item pairs is as described below.

! This feature does not work if the Item Bank Manager has not created any job on the **Item comparison criteria** page under **Manage Item Bank** as described in the **Item Similarity Criteria Configuration** topic.

The screenshot shows the 'Item comparison' page for 'Project: Demo_Project1'. It displays 'Total 84 Questions' and 'Retrieving 72 Questions Refresh for Count'. The search criteria are the same as in the previous screenshot. The 'Similarity Score Threshold(%)' is set to 70. The 'Total records:0' is shown, and a red message at the bottom states: 'No items found for specified search criteria, or the project configuration prevents access to the results.'

i The accuracy of this feature increases and it becomes particularly useful when there are a large number of items in the Item Bank. If the number of items is less, then the results may not be as accurate or useful.

Here is how the enemy relationship is decided by the Project Manager from this page.

1. After the **calculation job configured by the Item Bank Manager** runs at least once, the Project Manager can use this page to retrieve the item comparison results to decide about enemy associations.
2. The Project Manager can specify the item search criteria in the same way as on the **Search Items** page of the **Project Bank** page. The Project Manager can also specify the **Similarity Score Threshold (%)** which is a percentage value range for the Similarity Ratings of the

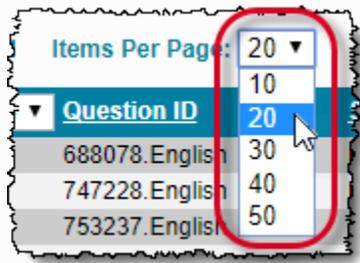
item pairs to be retrieved. (Example: if a value of **70** is specified here, and the maximum value of Similarity Rating of the retrieved item pairs is **1.8**, then the minimum value of Similarity Rating of the retrieved item pairs is restricted to **1.44**, which is **70% of 1.8**).

The screenshot shows the 'Item comparison' section of a software application. At the top, there are navigation tabs: 'Develop Questions', 'Prepare Assets', 'Create Exam Form', 'Manage', 'Observe', 'Manage Item Bank', and 'View Item Bank'. Below these are sub-tabs: 'Settings', 'Blueprint', 'Users', 'Project Bank', 'Reports', 'Import', 'Custom Menu', and 'Queue'. The user is logged in as 'demouser2f' with a last login of '06/21/17 12:41 AM'. The main content area is titled 'Item comparison' and 'Project: Demo_Project1'. It displays 'Total 84 Questions' and 'Provide your search Criteria (Retrieving 72 Questions Refresh for Count)'. There is a search criteria field with a dropdown for 'Question ID', a radio button for 'Not', and a dropdown for 'is equal to'. Below this are buttons for 'Add New Criteria', 'Retrieve Questions', 'Save Search', and 'Load Search'. A 'Similarity Score Threshold(%)' is set to '70'. There is an 'Export to [file format]' button and a checkbox for 'Include actioned items'. The 'Page 1' and 'Items Per Page: 20' are shown. A table of results is displayed with columns: 'None' (dropdown), 'Similarity Rating', 'ID', 'Stem', 'ID', 'Stem', and 'Relationship Decision'. The table contains 6 rows of search results, each with a checkbox, similarity rating, two IDs, two stems, and a 'Manage Relationship' button.

None	Similarity Rating	ID	Stem	ID	Stem	Relationship Decision
<input type="checkbox"/>	1.748	11258	Which of the following types of new legislation would provid	11145	Which of the following is the ca pital of India?	Manage Relationship
<input type="checkbox"/>	1.748	11241	Which of the following types of new legislation would provid	11234	Which of the following is the ca pital of India?	Manage Relationship
<input type="checkbox"/>	1.206	11265	FKT Company is considering th e introduction of a code of eth	11235	Which of the following is radioa ctive?	Manage Relationship
<input type="checkbox"/>	1.206	11248	FKT Company is considering th e introduction of a code of eth	11235	Which of the following is radioa ctive?	Manage Relationship
<input type="checkbox"/>	1.18	11265	FKT Company is considering th e introduction of a code of eth	11143	Which of the following is the ca pital of India?	Manage Relationship
<input type="checkbox"/>	1.18	11248	FKT Company is considering th e introduction of a code of eth	11143	Which of the following is the ca pital of India?	Manage Relationship

i How does the selection and pagination of search results work?

Users can optimize the number of search items per page by selecting a value from the **Items Per Page** drop-down; this number ranges from 10 to 50 per page. The default number is 20.



The selected number of search items is displayed in the grid below the drop-down.

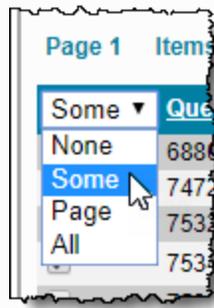
The search items per page can be changed and viewed at any time for the user's convenience.

The search results are listed on multiple pages according to the selected number of **Items Per Page** in the drop-down, if the total number of search items resulting from the search criteria exceeds the selected number of items per page.

The user can also directly jump to another page of the search results grid by clicking its corresponding link above the search results grid.



The **Selection** drop-down in the left of the header row has four selection options: **None**, **Some**, **Page**, and **All**.



This **Selection** drop-down is present on pages in which users need to select multiple search items for use such as viewing, modifying, etc.

The **Selection** drop-down options perform the following functions:

Column	Description
None	All items in the list across all pages of the search results grid are deselected.
Page	All items on the currently visible page of the search results grid are selected. If you move to another page of the search results grid, you will see that none of the items on that page are selected, but the items selected on the earlier page are still retained.
Some	This selection appears when you manually select a few items from the list by selecting their corresponding check boxes. This selection also appears if you select Page from the drop-down and then increase the Items per page , or if you select All from the drop-down and then deselect any item on the search results page. It is also possible to select items across multiple pages of the search results grid by simply making the selection on one page and moving on to another - the item selection made on the earlier page is retained even if you move to another page to make additional selections.
All	All items in the list across all pages of the search results grid are selected. Even when moving to any other page of the search results grid, all the items on that new page are also selected. The selection drop-down remains as All if any of the items are not deselected, and it changes to Some if any of the items on any of the pages of the search results grid are deselected. Furthermore, if the deselection is made on the first page of the search results grid, then all the items on other pages are deselected. However, if you move to another page of the search results grid while the selection drop-down is All and deselect any item, the selection drop-down for that page changes to Some , while all items on the remaining pages remain selected with the selection drop-down selection showing as Page on those pages.



What is the Similarity Rating?

The **Similarity Rating** of an item pair is a positive non-zero decimal number signifying the degree to which the enemy association is probable for the pair according to the application's calculation. A high number means that the item pair is highly recommended as an enemy pair, while a lower number means that the recommendation is lower. The Manager can take this

as a hint and decide about the relationship to establish between the item pair after examining the item pair.



The application is programmed to display only item pairs with Similarity Ratings of at least 0.2.



R-Type item are not retrieved during Item Comparison.

3. To decide whether or not to establish enemy association between a retrieved item pair, the Project Manager can select the pair via the check box, and click the **Manage Relationship** button.

Question Summary (Left):
Type: Pull-down List Status: Review: Default
Stem: Which of the following types of new legislation would provide greater employment opportunities in large companies?
Options:
A. New laws on health and safety
B. New laws to prevent discrimination in the workplace
C. New laws making it more difficult to dismiss employees unfairly
*D. New laws on higher compensation for employer breaches of employment contracts

Question Summary (Right):
Type: MCQ, One Correct Option Status: Review: Default
Stem: Which of the following is the capital of India?
Options:
A. Mumbai
B. Chennai
*C. New Delhi
D. Kolkata

Similarity Rating : 1.889793
* Relationship decision: Select One
Select One
Enemies
Not Enemies
Save Cancel



The Project Manager can get more information about the items in the pair by clicking **Show Details** link to make a better decision about the relationship between the items.

Question Summary (Left):
Type: Pull-down List Status: Review: Default
Stem: Which of the following types of new legislation would provide greater employment opportunities in large companies?
Options:
A. New laws on health and safety
B. New laws to prevent discrimination in the workplace
C. New laws making it more difficult to dismiss employees unfairly
*D. New laws on higher compensation for employer breaches of employment contracts

Question Summary (Right):
Type: MCQ, One Correct Option Status: Review: Default
Stem: Which of the following is the capital of India?
Options:
A. Mumbai
B. Chennai
*C. New Delhi
D. Kolkata

Hide Details

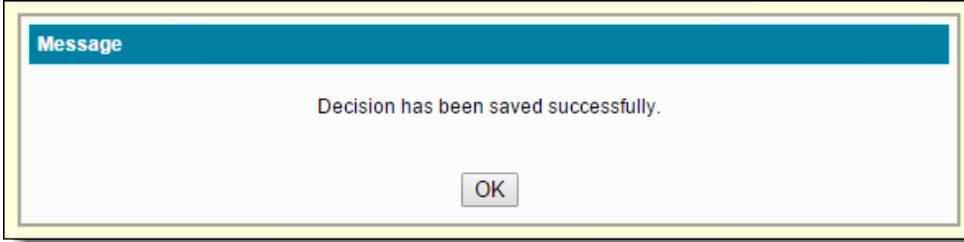
To add comments, click on the Comments tab.

Question Metadata	User Tracking	Comments
Written by: Pan, Peter (3/4/2016 11:28:09 AM)	Modified by:	
Accepted by:	Rejected by:	
Reviewed by: This version of the Question has not been reviewed.	Validated by: This version of the Question has not been validated.	

Similarity Rating : 1.747535
* Relationship decision: Select One
Select One
Enemies
Not Enemies
Save Cancel

4. The Project Manager can opt from the **Relationship decision** drop-down list to choose **Enemies** (to establish Enemy association between the selected item pair), or **Not Enemies** (to not mark them as Enemies), or **Select One** (to remove any existing Relationship

decision), and click **Save**. A confirmation pop-up appears as shown below. Clicking **OK** closes the pop-up and returns the user to the previous page with retrieved item pairs.



5. The enemy relationship decision for the actioned pair is now visible on the page. The actioned pairs (item pairs whose relationship status has been decided) are displayed only when the **Include actioned items** check box is selected.

The screenshot shows the 'Item comparison' section for 'Project: Demo_Project1'. It includes search criteria, a table of item pairs, and a sidebar with 'Item Similarity' selected. The 'Include actioned items' checkbox is checked and circled in red. The table shows two pairs with 'Enemies' and 'Not Enemies' relationship decisions, also circled in red.

None	Similarity Rating	ID	Stem	ID	Stem	Relationship Decision
<input type="checkbox"/>	1.748	11241	Which of the following types of new legislation would provid	11234	Which of the following is the capital of India?	Manage Relationship
<input type="checkbox"/>	1.748	11258	Which of the following types of new legislation would provid	11145	Which of the following is the capital of India?	Manage Relationship
<input type="checkbox"/>	1.748	11258	Which of the following types of new legislation would provid	11234	Which of the following is the capital of India?	Enemies
<input type="checkbox"/>	1.748	11241	Which of the following types of new legislation would provid	11145	Which of the following is the capital of India?	Not Enemies
<input type="checkbox"/>	1.206	11248	FKT Company is considering the introduction of a code of eth	11235	Which of the following is radioactive?	Manage Relationship
<input type="checkbox"/>	1.206	11265	FKT Company is considering the introduction of a code of eth	11235	Which of the following is radioactive?	Manage Relationship
<input type="checkbox"/>	1.18	11265	FKT Company is considering the introduction of a code of eth	11143	Which of the following is the capital of India?	Manage Relationship
<input type="checkbox"/>	1.18	11248	FKT Company is considering the introduction of a code of eth	11143	Which of the following is the capital of India?	Manage Relationship

6. The Project Manager can also export the retrieved item pairs to CSV (default) or Excel file format via the **Export to [file format]** button. A pop-up appears to select the file format via radio button. Click **OK** to export or **Cancel** to close the pop-up and return to the previous page.

By default, all the retrieved item pairs are exported.

To include item pairs, whose relationship status has already been decided, in the export, select the **Include actioned items** check box. To export only specific item pairs (actioned or not actioned), you can select their corresponding check boxes before clicking the button.

The exported Excel appears with the details as in the below example screenshot:

	A	B	C	D	E	F	G
1	Similarity	Item Id	Item Id	Similarity Decision	Action	Editable In	Viewable In
2	1.747535	11258	11145			Demo_Project1 Demo_Project1	Demo_Project1 Project2 Demo_Project1 Project3
3	1.747535	11241	11234			Demo_Project1 Demo_Project1	
4	1.747535	11258	11234	Enemies	3/7/2016 9:39:59 PM demouser2f	Demo_Project1 Demo_Project1	
5	1.747535	11241	11145	Not Enemies	3/4/2016 4:16:17 PM demouser2f	Demo_Project1 Demo_Project1	
6	1.205904	11265	11235			Demo_Project1 Demo_Project1	

i How are the pipe separators used in the Item Similarity export file?

The triple pipe (|||) separators in the **Action** column separate the date/time of action and the user who performed the action. The triple pipe (|||) separators in the **Editable In** column separates the names of the projects in which the first item and the second item are editable respectively.

The triple pipe (|||) separators in the **Viewable In** column separates the names of the projects in which the first item and the second item are viewable respectively. If an item is viewable in more than one project, those project names appear separated by single pipe (|) separators.